

III. Remarks

The status of the claims is set forth in the above listing of the claims. Claims 1-24 were previously cancelled, and claims 25-46 were added in a previous Response to Office Action. In the present Response, claims 25, 26, and 30 are amended. No claims were added or cancelled. Thus, claims 25-46 are currently pending. No new matter has been added, and Applicant respectfully requests reconsideration and allowance of all pending claims.

The Office Action indicates that claims 25-47 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Pat. No. 5,252,537 to DeWinter-Scaileur (*DeWinter-Scaileur*) and U.S. Pat. No. 5,677,019 to Carstairs et al. (*Carstairs*). Applicant notes with appreciation the indication that previous rejections, including the previous rejection under 35 U.S.C. § 112, and other issues have been withdrawn.¹

Applicant notes the reference to the term “substantially” on p. 5 of the present Office Action in the context of the evaporation step. Applicant is confused because Applicant already addressed the term “substantially evaporated” in relation to the previous Section 112 rejection and because this Office Action indicates that the 35 U.S.C. § 112 rejection was withdrawn.² Thus, Applicant is not sure which one of the “substantially” terms the Examiner is referring to and is not sure whether this reference is a basis for rejection. Nonetheless, Applicant has removed any instance of the term “substantially” in the currently pending claims in the interest of expedited allowance. Removal of the term “substantially” does not limit the scope of the claim and one of ordinary skill in the art would understand that removal of the term “substantially” in the amended claims 25, 26, and 30 should not be exclusively construed to indicate a complete or absolute context (e.g., completely immersed). One of ordinary skill in the art would understand that the terms in proximity to the removed term “substantially” may refer

¹ See Office Action, p. 2. Applicant notes that the present Office Action does not include rejections under 35 U.S.C. § 112 and, thus, assumes that this rejection is withdrawn.

² *Id.*

to a complete or absolute context (e.g., completely immersed) and may also refer to near or approximate states (e.g., nearly immersed or mostly immersed).

IV. Arguments

The examiner has maintained the rejections under 35 U.S.C. § 103(a) for what Applicant considers to be four main lines of reasoning: (1) the *DeWinter-Scailteur* dehydration step; (2) the *Carstairs* evaporation step; (3) the significance of natural pigment removal; and (4) the significance of the declaration. Applicant respectfully disagrees with the Office Action in relation to these four arguments for at least the reasons below.

Amended independent claim 25 recites a method for preserving flowers comprising first, second, and third “dehydrating steps... comprising filling the supporting device with flowers;” “optionally repeating the third dehydration step by progressively increasing the water-miscible solvent content in a the mixture until virtually all water initially contained in the flowers has been replaced;” “placing the supporting device into a reactor;” “filling the reactor with a [] mixture until the flowers are immersed in the [] mixture, the [] mixture comprising a first water-miscible solvent and water, wherein the first water-miscible solvent comprises more than [a certain percentage, depending on the first, second, or third step] of the first mixture;” “maintaining the first mixture at a temperature between approximately room temperature and 100°C for the time period, the time period comprising approximately at least thirty minutes;” and “extracting the first mixture from the reactor” (emphasis added).

(1) The *DeWinter-Scailteur* Dehydration Step

The dehydration step arguments are two-fold. First, Applicant respectfully maintains that *DeWinter-Scailteur* only teaches one dehydration step and, thus, does not teach each and every step of independent claim 25 because independent claim 25 teaches three dehydration steps and optionally repeating the third dehydration step until virtually all water initially contained in the flowers has been replaced. Second, Applicant respectfully submits that multiple dehydration steps are a non-obvious distinction over *DeWinter-Scailteur*.

Only One Dehydration Step is Taught by *DeWinter-Scailteur*

The Office Action maintains that *DeWinter-Scailteur* teaches at least two dehydration steps in col. 2 lines 7-12 and col. 3 lines 21-29.³ But the examiner has not responded directly to Applicant's explanation as to *why* these cited portions of *DeWinter-Scailteur* only refer to a single dehydration step. Applicant explained in the previous two responses that the dehydration disclosed in column 2 lines 7-12 is a summary of the dehydration disclosed at column 3 lines 21-29. Indeed, column 2 lines 7-12 are contained in the SUMMARY OF THE INVENTION section while column 3 lines 21-29 are contained in the DETAILED DESCRIPTION OF THE INVENTION section. The dehydration discussed in column 2 lines 7-12 refers to "a dehydration stage ... followed by an infiltration stage," (emphasis added). This is the same dehydration disclosed at column 3 lines 21-29 referring to a dehydration stage and to a subsequent infiltration stage.

When responding to this line of reasoning, the Office Action merely reiterates the previous position, "column 2 lines 7-12 and column 3 lines 21-29 [teaches] that natural flowers undergo a dehydration stage involving the exposure of organic solvents to the flowers ... and where a dehydration step using molecular sieves followed by an infiltration step is taught." This position is worded nearly identically to the original rejection despite Applicant's reasonable explanation and interpretation of these cited portions of *DeWinter-Scailteur*.⁴

Applicant respectfully submits that in both cited portions of *DeWinter-Scailteur*, the dehydration stage involves exposure of organic solvents to the flowers followed by an infiltration step.⁵ Both cited portions also refer to the use of molecular sieves.⁶ Applicant has also previously argued that any mention of the dehydration stage in *DeWinter-Scailteur* refers to "a dehydration stage" or "the dehydration stage" and not to multiple dehydration stages. Nowhere

³ See, Office Action, p. 3-4, 6.

⁴ See, e.g., Response to Office Action dated April 29, 2010, p. 9.

⁵ See, *DeWinter-Scailteur*, col. 2 lines 7-20, col. 3 lines 8-29.

⁶ *Id.*

does *DeWinter-Scailteur* indicate that the flowers undergo multiple dehydration stages, but instead refers to in the SUMMARY OF THE INVENTION section and again in the DETAILED DESCRIPTION OF THE INVENTION a single dehydration followed by infiltration.

DeWinter-Scailteur discloses a four-step process: dehydration, infiltration, draining, and drying.⁷ However, only in the dehydration step is water removed from the natural flower. In the draining and drying steps, residual parts of the solvents are removed (but not the water from the natural flower).⁸ Thus, for the sake of completeness, Applicant also respectfully notes that the draining and drying steps are not dehydration steps.

According to the MPEP, “Office personnel should consider all rebuttal arguments and evidence presented by the applicants.”⁹ Further, it is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.”¹⁰ Thus, Applicant respectfully requests that the examiner respond directly to Applicant’s interpretation of these cited portions of *DeWinter-Scailteur*.

Applicant respectfully submits that *DeWinter-Scailteur* only teaches one dehydration step and therefore does not teach each and every element as required by independent claim 25 and requests that the examiner withdraw the Section 103(a) rejection of claims 25-46.

Multiple Dehydration Steps are a Non-Obvious Distinction Over *DeWinter-Scailteur*

The Office Action also maintains that it would be obvious to modify *DeWinter-Scailteur* by adding dehydration steps to the process. Applicant respectfully disagrees and submits that the single dehydration step taught by *DeWinter-Scailteur* requires the use of a molecular sieve in order to dehydrate the flowers.¹¹ *DeWinter-Scailteur* teaches that the flower tissue water is replaced progressively and gradually by the organic solvents while the water molecules are

⁷ See, *DeWinter-Scailteur*, col. 2 lines 7-11, col. 3 lines 20-25, col. 4 lines 29-32, col. 5 lines 27-30, and independent claim 1.

⁸ *Id.* at col. 4 lines 29-32.

⁹ MPEP § 2145.

¹⁰ MPEP § 706.02(j).

¹¹ See, *DeWinter-Scailteur*, col. 2 lines 12-20, col. 2 lines 47-68, and col. 3 lines 8-14.

progressively absorbed into the small cells or pores of the molecular sieve.¹² A physical contact between the sieve and the petals is required by the *DeWinter-Scailteur* process in order for the dehydration stage to work properly.¹³

In contrast, independent claim 1 does not require the use of a molecular sieve for dehydration. Instead, the present disclosure relates to dehydration carried out in a series of steps in which different concentrations are used. Thus, using a series of dehydration steps is an important distinction between independent claim 1 and *DeWinter-Scailteur* and is advantageous because the present disclosure does not require the use of a molecular sieve.¹⁴ Thus, Applicant respectfully submits that it would not be obvious to modify *DeWinter-Scailteur* by adding dehydration steps because the *DeWinter-Scailteur* inventors were using a molecular sieve to aid in the dehydration process. The presently claimed dehydration is instead carried out in a series of steps without the use of a molecular sieve.

For at least the above reasons, Applicant respectfully submits that *DeWinter-Scailteur* does not teach each and every element of independent claim 25 and that independent claim 25 is non-obvious over *DeWinter-Scailteur*. Thus, Applicant requests that the rejections under Section 103(a) of independent claim 25 as well as dependent claims 26-46 be withdrawn.

(2) The Carstairs Evaporation Step

The Office Action maintains that the evaporation step is taught by *Carstairs* and that it would have been obvious to combine *Carstairs* with *DeWinter-Scailteur*. Applicant respectfully disagrees. The drying step taught by *Carstairs* “is normally carried out under mild conditions and merely removes surface water from the washed plant material without evaporating any amount of the dihydric alcohol from within the plant material,” (emphasis added).¹⁵

¹² *Id.* at col. 3 lines 8-14.

¹³ *Id.* at col. 2 lines 47-68.

¹⁴ See Abstract, “The present invention does not require the use of molecular sieves during the method.”

¹⁵ See, *Carstairs*, col. 5 lines 50-58.

In contrast, the evaporation step of independent claim 25 requires, “the bath mixture being removed from the flowers and the fourth mixture being evaporated in a vacuum or by applying an evaporating temperature,” (emphasis added). Thus, *Carstairs* drying stage carried out under “mild conditions” for “merely removing surface water from the washed plant material” falls short of disclosing the evaporation step of independent claim 25. Accordingly, Applicant respectfully submits that each and every element of independent claim 25 is not present in the prior art references and requests that the rejections under Section 103(a) of independent claim 25 as well as dependent claims 26-46 be withdrawn.

(3) The Significance of Natural Pigment Removal

Applicant has previously asserted that *Carstairs* cannot be combined with *DeWinter-Scailteur* in an obviousness rejection because *Carstairs* preserves a plant’s natural color, while the instant claims relate to removing all natural pigments in order to dye flowers with other colors. But the Office Action maintains that the claims do not recite that all natural pigments are removed by the instant process for the purpose of using dye to color flowers. Accordingly, Applicant has amended independent claim 25 to recite, “optionally repeating the third dehydration step by progressively increasing the water-miscible solvent content in the mixture until virtually all water initially contained in the flowers has been replaced,” (emphasis added). The Specification provides support for this amendment and discusses removing virtually all of the water initially contained in the flowers and introducing colorants.¹⁶ Specifically, when water is removed so that colorants may later be introduced, all other water-soluble substances (including natural pigments) are also removed with the water. By using the dehydration steps according to amended independent claim 25, all natural pigments would be removed as well. Additionally, support for the removal of all natural pigments is included in the Declaration submitted on April 29, 2010, particularly in Annex A. Thus, Applicant respectfully submits that claim 25, as amended, is nonobvious over *Carstairs* and *DeWinter-Scailteur* and requests that

¹⁶ See e.g., Specification ¶¶ [0067], [0071], and [0073].

the rejections under 35 U.S.C. § 103(a) of independent claim 25 as well as dependent claims 26-46 be withdrawn.

(4) The Significance of the Declaration

The Office Action has indicated that the distinctions and advantages discussed in the Response to Office Action filed April 29, 2010 and in the Declaration and Annexes are not nonobvious distinctions and are not significant enough advantages over the prior art. Applicant disagrees and reiterates that the Declaration and Annexes contain objective evidence for nonobviousness under 37 CFR 1.132. The results of the experimental procedure included in the Annexes of the declaration are greater than those which would have been expected from the prior art and, as can be seen in the Figures and discussion of Annex A and B, the results include significant, synergistic advantages: obtaining substantially colorless flowers, obtaining flowers with lower moisture content, reducing solvent consumption, all resulting in the obtained flowers having a dramatically more fresh and realistic appearance.

Applicant also emphasizes that these results are obtained without the use of a molecular sieve as required during the dehydration stage of *DeWinter-Scailteur* and requests that the examiner reconsider the objective evidence in light of the additional arguments presented in this Response. As shown in the declaration, the quality of the flowers obtained using the methods recited in independent claim 25 dramatically exceed the quality of the flowers obtained using the *DeWinter-Scailteur* process.

For at least the above reasons and the reasons disclosed in the Declaration and Annexes, Applicant respectfully submits that amended independent claim 25 is allowable under Section 103(a) over *Carstairs* and *DeWinter-Scailteur*. Dependent claims 26-47 depend from independent claim 25. Since these claims further limit a patentably distinct independent claim, the dependent claims are allowable on that basis as well as based on the additional patentably distinct limitations that they provide.

V. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. If any additional fees are required to complete this filing, or if an overpayment has occurred, the Commissioner is authorized to charge or credit such amount to Deposit Account No. 13-0480, referencing Attorney Docket No. 09163000.110000. The Examiner is cordially invited to contact the undersigned Attorney of Record if such would expedite the prosecution of this Application.

Respectfully submitted,

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